

Open Markets Institute Comments on “Access to Fertilizer: Competition and Supply Chain Concerns,” AMS-AMS-22-0027

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The Open Markets Institute would like to thank the U.S. Department of Agriculture (USDA) for examining competition issues in fertilizer markets. Fertilizer production is marked by cartelization and consolidation that, in recent decades, has resulted in plant closures and general divestments in capacity that restricted the fertilizer supply and strained supply chains. USDA and antitrust enforcers need to consider unwinding key mergers, such as Agrium and PotashCorp’s 2018 merger, and establishing fair market rules that encourage healthy competition and resilient manufacturing and mining capacity. USDA should also think more broadly about supporting agriculture practices that reduce the need for synthetic fertilizer by improving soil health.

The USDA asks in question (1) to describe the challenges and concerns with market concentration and power in the fertilizer industries, including the extent of control by any firms over farmers' and business' access to fertilizer, pricing, availability, transportation and delivery, quality, and any other contract terms or other factors. Question (2) asks for comments on both long and short-term trends in fertilizer prices. What role have fertilizer, crop prices, or availability of key raw materials and manufacturing played in any changes? Has price volatility increased and if so, what accounts for this increase in volatility?

And in question (3) to share views on whether the existing fertilizer market is sufficiently competitive and how competition problems manifest themselves. Is there evidence of collusion, market manipulation, or other anticompetitive practices among competitors, buyers of farm products, commodity traders or related financial firms to fix or alter prices, allocate markets, or restrict from where a farmer buys inputs and sells product?

Additionally, question (4) asks what effect have these mergers had on a merged firm's market power and the ability to squeeze farmers or squeeze out competitors? Are there indications that firms have made it harder for new fertilizer firms to start up and grow? Is there evidence that firms have controlled or reduced supply to keep supply low and prices high?

The global fertilizer industry is divided into three subsets: Nitrogen, Potash (Potassium), and Phosphorus markets. Few corporations make each of the fertilizers consumed primarily by the

farm sector, while some focus on specifically one type of fertilizer. The industry is heavily concentrated and has undergone significant consolidation in the past four decades. The number of companies in the U.S. industry has shrunk from 46 to 13 since 1980.¹ This decrease has been harmful to farmers, as producers have acted in a coordinated fashion to increase prices and have reduced supply.

Nitrogen Fertilizer

Nitrogen fertilizers are complements to other fertilizers and are used in complex fertilizers such as NPK.² The U.S. is the world's fourth-largest producer of nitrogen fertilizer with a small concentration of players leading the market.³ The market in the U.S. is highly concentrated, with CF Industries, Nutrien, Koch, and Yara-USA accounting for 75% market share.⁴

U.S. domestic output of urea, a key nitrogen fertilizer, has increased over the past few years as producers have benefited from the declining cost of gas.⁵ Yet over the past year, prices have surged. In late March, prices for nitrogen fertilizer ammonia increased by 43%.⁶ Much of the price increase has been attributed by researchers and publications to the Russian invasion of Ukraine and subsequent war, which has pushed up gas prices.⁷ However, fertilizer prices were rising before this invasion and a December 2021 study by Texas A&M found that fertilizer prices were not closely or proportionately tracking with changes in natural gas prices, saying prices could be rising with commodity prices "due to the exercise of market power by nitrogen product manufacturers and extraction of economic rents from corn producers."⁸ Companies engaged in nitrogen fertilizer production, such as CF Industries, Nutrien, and others, have seen record profits over the past year through price hikes⁹ with U.S. Agriculture Secretary Tom Vilsack warning companies against price gouging.¹⁰

¹ <https://www.reuters.com/markets/commodities/farmers-ask-us-justice-department-investigate-fertilizer-price-spikes-2021-12-08/>

² <https://www.sciencedirect.com/science/article/pii/S0301420721000362>

³ <https://farmdocdaily.illinois.edu/2021/02/synthetic-nitrogen-fertilizer-in-the-us.html>

⁴ <https://farmaction.us/2021/12/08/farm-advocates-call-for-doj-investigation-into-suspicious-spike-in-fertilizer-prices/>; <https://www.agriculture.com/news/business/skyrocketing-fertilizer-prices-gouge-farmer-profits-groups-blame-consolidation>

⁵ <https://www.wsj.com/articles/heres-one-industry-where-the-u-s-is-already-catching-china-fertilizers-1486938901>

⁶ <https://www.bloomberg.com/news/articles/2022-03-28/fertilizer-price-surges-43-to-fresh-record-as-supplies-tighten?sref=ZvMMMOKz>

⁷ Id.

⁸ <https://dt176nijwh14e.cloudfront.net/file/481/Study%20.pdf>

⁹ <https://www.ft.com/content/105965d2-3f12-4ffb-9d8a-f54f92450eff>; https://www.capitalpress.com/growersguide/soaring-fertilizer-prices-boost-profits-for-manufacturers-copy/article_6a724e2a-4be9-11ec-beb4-d79be03215da.html

¹⁰ <https://www.bloomberg.com/news/articles/2022-02-24/usda-chief-warns-fertilizer-firms-on-price-gouging-over-ukraine?sref=ZvMMMOKz>

Reduced capacity by nitrogen fertilizer producers has also negatively impacted supply. Over the past few decades, consolidation in the nitrogen fertilizer industry has resulted in a decrease from 46 firms in the 1980s to 13 firms in the mid-2000s. Before the '80s, production was handled by a competitive group of small firms that met or exceeded domestic demand in the U.S. This consolidation gives companies a higher potential to exercise market power. Ammonia production has also undergone extreme consolidation as the number of plants decreased from 59 to 22 between 1984 and 2008.¹¹

The building block of nitrogen fertilizer is ammonia, which is made using natural gas. Natural gas represents most of the variable costs for nitrogen fertilizer, taking a 70 to 90% portion.¹² Most U.S. ammonia use is domestically sourced with the U.S. producing ammonia in 35 plants by 16 companies in 2019. The ammonia-producing industry in the U.S. is highly concentrated, with CF Industries being the industry leader in the U.S.¹³ and Nutrien, Koch Fertilizer, and Iowa Fertilizer making up a majority of the market.¹⁴ The top four companies, as of 2018, control 75% of U.S. output.¹⁵

Potash Fertilizer

In the Potash market, there is a high degree of market concentration and a strong history of consolidation. Globally, four groups control 72% of the market. These groups include Belaruskali, Nutrien, Uralkali, and Mosaic.¹⁶ This concentration increased from 48% to 63% between 2015 and 2018.¹⁷ In North America, potash is controlled by a small oligopoly of producers consisting of Mosaic with a 40% market share¹⁸ and Nutrien with a 22% market share.¹⁹ The U.S. is highly dependent on potash imports, with 93-96% coming from global producers.²⁰ 83% of potash production comes from Canada's export cartel Canpotex, consisting of Nutrien and Mosaic. Belarus and Russia account for 6% each.²¹

¹¹ <https://www.choicesmagazine.org/choices-magazine/submitted-articles/the-history-consolidation-and-future-of-the-us-nitrogen-fertilizer-production-industry>

¹² Id.

¹³ https://www.eia.gov/naturalgas/weekly/archivenew_ngwu/2021/04_01/

¹⁴ <https://www.statista.com/statistics/1266392/ammonia-plant-capacities-united-states/>;
<https://www.statista.com/statistics/1266394/ammonia-capacities-by-company-united-states/>

¹⁵ <https://www.choicesmagazine.org/choices-magazine/submitted-articles/the-history-consolidation-and-future-of-the-us-nitrogen-fertilizer-production-industry>

¹⁶ <https://www.fitchratings.com/research/corporate-finance/global-potash-producers-may-benefit-from-lower-belarus-exports-25-08-2020>

¹⁷ http://marita-wiggerthale.de/mediapool/16/163463/data/Corporate_power_food_system_Jan_2021_1_.pdf

¹⁸ <https://www.mosaicco.com/North-America-Business>

¹⁹ <https://nutrien-prod-asset.s3.us-east-2.amazonaws.com/s3fs-public/uploads/2021-08/Nutrien%20Investor%20Presentation%20August%202021.pdf>

²⁰ <https://www.prnewswire.com/news-releases/michigan-potash-stands-to-replace-russian-potash-fertilizer-imports-301497352.html> ; <https://farmdocdaily.illinois.edu/2022/03/war-in-ukraine-and-its-effect-on-fertilizer-exports-to-brazil-and-the-us.html>

²¹ <https://pubs.usgs.gov/periodicals/mcs2021/mcs2021-potash.pdf>

Since the start of 2022, Potash prices have increased by more than 30%.²² U.S. sanctions on both Belarusian and Russian exporters have reduced available supply on the world market, as both countries account for 40% of global potash exports. This has increased prices for U.S. farmers. Suppliers to the North American market, Mosaic and Nutrien, have signaled their intention to increase output but have also acknowledged the limitations in achieving this goal; this duopoly does not have enough capacity to make up for the large supply shortage.

Consolidation and concentration in the North American potash industry have resulted in reduced capacity over the past decade. Since 1962, U.S. domestic potash production has declined by 65%.²³ Over the past two decades, the potash industry in North America has experienced increasing demand and almost no increase in supply, exacerbating an imbalance that has contributed to price hikes.

In 2018 the world's largest producer of Potash, Nutrien, was formed when Agrium and PotashCorp decided to merge, holding 60% of North American potash capacity.²⁴ One of the key goals of the merger was to create \$500 billion in yearly savings. The merger came under scrutiny from farm groups in both the U.S. and Canada, citing that it would result in less power for farmers to negotiate and lead to increased costs.²⁵ After the merger, Nutrien reduced capacity at its production facilities, shutting down mines at Allan, Lanigan, and Vanscoy and temporarily laying off 750 workers.²⁶ Some of these mines, such as Vanscoy, are still shutdown. Mosaic, in 2019, announced that it would shut down its mine in Colonsay. The company later reopened the mine in June 2021, but this was accompanied by shutdowns at its K1 and K2 mine sites in Esterhazy.²⁷ In 2019, the newly formed company Nutrien announced that it would shut down its phosphate operations at its plant in Redwater, Alberta.²⁸

In 2008, high fertilizer prices led to U.S. farmers using 33% less potash (and 26% less phosphorus) for crops. These price increases were a result of high industry concentration and market discipline by top producers to not increase supply.²⁹ Excess capacity by producers was

²² <https://www.cnn.com/2022/03/22/fertilizer-prices-are-at-record-highs-heres-what-that-means.html>

²³ <https://www.southbendtribune.com/story/business/2013/09/15/potash-find-worth-billions/117195530/>

²⁴ https://www.ftc.gov/system/files/documents/reports/price-effects-merger-agricultural-fertilizer-manufacturers-agrium-potashcorp/working_paper_345.pdf

²⁵ <https://www.cbc.ca/news/business/farmers-reaction-agrium-potash-1.3759014>;

<https://www.reuters.com/article/us-agrium-m-a-potashcorp/potash-corp-agrium-talk-merger-competition-scrutiny-expected-idUSKCN1151UT>

²⁶ <https://www.cbc.ca/news/canada/saskatoon/sask-potash-downturn-nutrien-layoffs-1.5280925>

²⁷ <https://investors.mosaicco.com/press-releases/news-details/2021/The-Mosaic-Company-Mosaic-Announces-Early-Closure-of-Esterhazy-K1-and-K2-Shafts-Planned-Resumption-of-Production-at-Colonsay/default.aspx>;

<https://www.bloomberg.com/news/articles/2021-06-04/mosaic-to-restart-canadian-mine-to-counter-early-shaft-closures?sref=ZvMMMOkz>

²⁸ <https://www.sherwoodparknews.com/2018/05/04/phosphate-plant-shutting-down>

²⁹ <https://www.antitrustinstitute.org/wp-content/uploads/2013/10/FertilizerMonograph.pdf>

still high during this period with the International Fertilizer Industry Association (IFA) pointing out that supply exceeded demand between 2008 and 2012. Additionally, between 2008 and October 2009, the price of potash increased by 400% even while production decreased by 39% and shipments by 43%. Producer profits surged during this time, peaking at 480%.³⁰ These record profits were made by Canpotex. Russian and Belarusian producers have indicated in the past a desire and willingness to not compete, and reports, by the Conference Board of Canada, have described their behavioral tendencies as akin to oligopolists. Between 2008 and 2012, North American potash prices were 25% higher than general benchmark prices.

The North American potash industry also historically benefits from antitrust exemptions that allow producers to share information on export prices and volumes of fertilizer. A major beneficiary is Canpotex. Export cartels have enjoyed antitrust exemptions under the Webb-Pomerene Export Trade Act of 1918, which was designed to give smaller U.S. players in an industry a share of export trade and countervail foreign firms' market power. However, consolidation in the fertilizer industry has allowed firms to engage in anticompetitive conduct with impunity. Both the American Antitrust Institute and the American Bar Association have called on the U.S. government to repeal these immunity-granting laws.³¹

Phosphate Fertilizer

The global and North American market for phosphate fertilizer is highly concentrated. Morocco and the Western Sahara account for 71.5% of phosphate rock reserves.³² U.S. supply of phosphate is mostly domestically sourced. 95% of phosphate mined is turned into phosphoric and super phosphoric acid. 50% of this acid is then turned into DAP and MAP fertilizer.³³

The major player in the phosphate fertilizer industry in the U.S. is Mosaic. In 2021, Mosaic produced 64% of the phosphate mined in the U.S and has a market share of 90% in the U.S. phosphate fertilizer industry.³⁴ Mosaic's market share has increased as a result of tariffs implemented by the International Trade Commission (ITC) on behalf of Mosaic against Moroccan and Russian fertilizer in March 2021.³⁵ The ITC imposed duties of 20% on Moroccan state-owned producer OCP, 9% on Russian producer PhosAgro, 47% on Russian producer Eurochem, and 17% on other Russian producers.³⁶ Mosaic has largely cemented its monopoly position in the global phosphate fertilizer market, being involved in 88% of global production either directly or indirectly.³⁷

³⁰ <https://washingtonmonthly.com/2022/02/25/from-russia-with-monopolies/>

³¹ American Antitrust Institute

³² <https://www.sciencedirect.com/science/article/pii/S2211912420300808>

³³ <https://pubs.usgs.gov/periodicals/mcs2021/mcs2021-phosphate.pdf>

³⁴ <https://www.promote-trade.org/issue-guides/2021/1/21/price-action-analysis>

³⁵ <https://www.dtnpf.com/agriculture/web/ag/crops/article/2021/03/11/us-imports-phosphate-fertilizer-will>

³⁶ Id.

³⁷ <https://prospect.org/economy/fertilizer-firms-spread-wealth-to-shareholders-farmers-weather-extreme-prices/>

In 2014, Mosaic acquired the phosphate business of competitor CF Industries for \$1.2 billion.³⁸ Rather than building an ammonia plant and installing extra capacity in the U.S., Mosaic decided to cancel plans for a \$1.1 billion Louisiana plant that would increase ammonia production needed to make finished phosphate fertilizer.³⁹ The company also canceled plans for a \$1 billion phosphate processing plant in Florida. This acquisition saved them enough money to buy back stock, according to CFO Larry Stranghoener during the time of the acquisition.⁴⁰

***Question (7) asks** how do transportation and delivery affect fertilizer competition and access to fertilizer? To what extent does market power by fertilizer or applicable firms over these or other key transportation channels affect competition and farmer's access to fertilizer? What risks relating to supply chain, labor or other disruptions are most relevant?*

The storage of fertilizer, particularly nitrogenous fertilizer, comes with massive and deadly risks. In 2013, West Fertilizer Company, located in West, Texas, operated a storage plant for 540,000 pounds of ammonium nitrate and 110,000 pounds of anhydrous ammonia.⁴¹ The plant exploded and killed 15 individuals, injured 200 people, and flattened a farming community of 2,800 people.⁴² This is only one example of numerous incidents involving explosions of storage facilities handling fertilizer.

Yet much of the fertilizer coming into the U.S. from Canada utilizes a just-in-time distribution technique and is shipped by rail. Shutdowns by Canada Pacific Railway in March 2022, due to stalled union negotiations,⁴³ pose a major obstacle to the efficient distribution of fertilizer to the U.S. 75% of fertilizer in Canada is shipped by rail. Canada Pacific is the leading shipper of fertilizers such as phosphate, urea, ammonium sulfate and nitrate, and anhydrous ammonia, with half of this production coming from Alberta. The company is the leading shipper of potash and has a 70% market share in the distribution of potash from North America.⁴⁴

Another issue in ensuring an adequate supply of potash is barriers to entry controlled by other players in the market. One of these barriers is storage access. Many of the production costs for the potash industry are variable rather than fixed, as transportation and fuel play a major role in distribution to farmers in the Midwest and Northern Plains from mining sites, primarily located in Saskatchewan, Canada. Warehouses for potash storage are controlled by existing players who

³⁸ <https://www.prnewswire.com/news-releases/the-mosaic-company-completes-acquisition-of-cf-industries-phosphate-business-250632361.html>

³⁹ <https://www.reuters.com/article/us-mosaic-cfindustries/mosaic-to-buy-cfs-phosphate-business-for-1-2-billion-idUSBRE99R0QP20131028>

⁴⁰ Id.

⁴¹ <https://www.wsj.com/articles/SB10001424127887323309604578430592622821524>

⁴² <https://www.nbcnews.com/news/us-news/deadly-west-texas-fertilizer-plant-explosion-was-criminal-act-feds-n572231>

⁴³ <https://www.cbc.ca/news/canada/saskatchewan/cp-rail-strike-lockout-farmers-fertilizer-1.6392705>

⁴⁴ <https://www.foodmanufacturing.com/supply-chain/news/22131386/canadian-pacific-rail-work-stoppage-may-hit-us-agriculture>

have longtime leases and exclusive arrangements. One of these arrangements is CHS, a U.S. farm cooperative that strikes deals with major potash players to store inventory in their extensive network of houses. In 2017, as K+S was attempting to enter the potash market, the company expressed concern over having enough space to store potash supplies.⁴⁵

Question (8) asks for comments on the U.S. agricultural system's reliance on foreign supply of some fertilizers and global supply chain risks that could result from trade disruptions. Please comment on how the conflict in Ukraine may be impacting fertilizer markets. If other supply chain or trade disruptions have been experienced, please describe the effects and challenges in dealing with such events. Would greater availability of domestic or North American options mitigate risks? Would reducing dependence on suppliers from any one country or region mitigate risks? What tools might be deployed to achieve those ends?

While the U.S. has a strong domestic industry in the production of nitrogen and phosphorus fertilizer and is reliant on a strong regional supply chain for the potash fertilizer, the price of fertilizer is set by global spot markets and is heavily influenced by monopolistic producers abroad. U.S. sanctions on Belarusian and Russian potash, for example, have restricted the amount of fertilizer able to be purchased globally from these countries, leading to a spike in demand and pushing up prices. This increase in prices has resulted in more revenue for Belarus and Russian producers. The European Union is now actively considering sanctioning Belarus' main potash company Belaruskali.⁴⁶

Lithuanian actions against Belarusian potash producers have included the closure of the main entryway for potash fertilizer into Western Europe from Belarus. Belarusian potash is now being reshipped through Russian railways, giving Russia greater control over the crucial commodity. Russia is the largest exporter of fertilizer in the world and has market shares ranging from 60 to 100% in nitrogen fertilizer exports to U.S. allies and NATO members. Additionally, Russia is the world's largest producer of nitrate, which is a key input in the production of nitrogen and phosphate fertilizers.⁴⁷ Russia accounts for over 60% of the world's production of ammonium nitrate and is a key supplier of ammonia to Morocco, which has the world's largest reserves of phosphate.⁴⁸

The U.S. and allies need to use the tools at their disposal to reduce fertilizer reliance on foreign adversaries and hostile nations. Countries with monopolistic players in the global fertilizer supply chain should be subject to a wide array of U.S. sanctions and trade tools. The goal for the U.S. should be to make sure that the global market is as diverse as possible and not subject to

⁴⁵ <https://www.reuters.com/article/usa-fertilizers-ks-idCNL1N1HP0WH>

⁴⁶ <https://www.bloomberg.com/news/articles/2022-05-04/eu-proposes-sanctions-on-main-belarus-potash-companies?sref=ZvMMMOkz>

⁴⁷ https://www.researchgate.net/publication/326877005_Market_power_in_the_international_fertiliser_market_empirical_evidence_for_exports_from_Russia

⁴⁸ <https://media.africaportal.org/documents/PP-21-21-RIM-DADUSH-.pdf>

coercion from hostile economic actors. This will also mean ensuring robust antitrust enforcement and a competitive and diverse array of players domestically and regionally.

Only 20% of urea ammonia nitrate (UAN), a key nitrogen fertilizer demand in the U.S. is sourced from imports.⁴⁹ Although a small portion of UAN is imported, tariffs imposed on the global players have also played a role in increased prices and concentration of the industry in the U.S. market. In June 2021, CF Industries filed a petition with the ITC and U.S. Department of Commerce arguing that subsidized imports of UAN from Trinidad and Tobago and Russia were hurting its business. In early 2022, the ITC ruled in favor of CF Industries, pointing out that Russian imports are dumped in the U.S. in a range from 9% to 127% and Trinidadian imports were dumped at 63%.⁵⁰

Additionally, North American producers have had to deal with dumping and subsidies from competitors abroad. The cartel of potash producers in the past has engaged in anticompetitive behavior in price setting and supply cutbacks to increase prices for customers. This cartel includes Canpotex, Belaruskali, Silvinit, and Uralkali. According to an analysis by the American Antitrust Institute, “global fertilizer producers have likely acted in a coordinated fashion to raise prices, to the detriment of competitors and consumers.”⁵¹

Tariffs imposed on Chinese phosphate fertilizer imports during 2018 by the Trump administration⁵² and export restrictions by China,⁵³ which represent 25% of the global phosphate fertilizer export market,⁵⁴ have also limited the amount of phosphate farmers can buy abroad. 15% of the global market is not subject to U.S. tariffs.⁵⁵ Numerous farmer organizations, such as the Agricultural Retailers Association and the National Corn Growers Association, have announced their opposition to the tariffs. Since the tariffs were imposed, prices have increased sharply with a congressional letter sent to the ITC highlighting that fertilizer prices have increased by 93%.⁵⁶

***Question (9)** asks to please comment on sustainability, climate, and other environmental concerns and risks relating to fertilizer markets. Have market concentration and power exacerbated these challenges and risks? Have they facilitated sectoral adjustment for climate and sustainability purposes? What other strategies may exist to raise sustainability standards along supply chains? **While question (11) asks** how can USDA further support more efficient use*

⁴⁹ <https://gro-intelligence.com/insights/us-corn-growers-could-face-higher-fertilizer-costs-from-import-tariffs>

⁵⁰ <https://www.michiganfarmnews.com/bad-news-for-nitrogen-prices-commerce-dept-issues-preliminary-antidumping-duty-determinations>

⁵¹ <https://www.antitrustinstitute.org/wp-content/uploads/2013/10/FertilizerMonograph.pdf>

⁵² <https://www.spglobal.com/marketintelligence/en/news-insights/trending/zRbqBeHKsHfVSFku0EU8QA2>

⁵³ <https://www.piie.com/blogs/realtime-economic-issues-watch/chinas-recent-trade-moves-create-outsize-problems-everyone-else>

⁵⁴ <https://www.fb.org/market-intel/too-many-to-count-factors-driving-fertilizer-prices-higher-and-higher>

⁵⁵ <https://www.dtnpf.com/agriculture/web/ag/crops/article/2021/03/11/us-imports-phosphate-fertilizer-will>

⁵⁶ <https://prospect.org/economy/fertilizer-firms-spread-wealth-to-shareholders-farmers-weather-extreme-prices/>

of fertilizer? Are current precision agriculture tools effective at reducing fertilizer application rates without impacting yield? Are there ways USDA could support more effective use of other fertilizers (e.g.: manure) from livestock? Could considering these factors improve competition in certain markets? Please share your views.

Synthetic fertilizer run-off, especially coming from largescale industrial farms, can cause major environmental problems for land, freshwater, and marine ecosystems. Ammonia emissions from fertilizer manufacturing, when combined with vehicle exhausts, have also been shown to increase the risks of respiratory diseases. Additionally, the increasing use of synthetic fertilizers facilitates more destructive farming practices such as soil tilling. Tilling leads to the destruction of important soil microbes, accelerates surface runoff and soil erosion, and has been shown to reduce water retention. Tilling has also contributed to the release of greenhouse gases like carbon dioxide.⁵⁷

Many farms utilize techniques that don't involve tilling and maintain their soil health by planting cover crops, rotating crops, and utilizing compost as fertilizer. These farms engage in regenerative agricultural practices that ensure soil health is maintained over a longer period. Regenerative farming practices also result in 30 to 60% less energy input than traditional farming practices involving synthetic fertilizer.⁵⁸ The USDA can promote more efficient use of fertilizer by supporting organic, biodynamic, and agroecological farming methods that maintain soil health and fertility with minimal or no use of synthetic fertilizers.⁵⁹

Question (15) asks what other tools, investments, or programs could USDA or other agencies deploy to enhance the competitiveness of fertilizer markets? Please suggest any other actionable steps that USDA or other agencies could take to help address any identified concerns.

Numerous actions can be taken by the USDA and other agencies to remedy unjustifiable price increases, tame the market power of large fertilizer corporations, and reduce dependency on unreliable foreign sources.

Rolling back mergers and implementing a merger moratorium on further consolidation in the fertilizer industry should be a priority for the USDA, FTC, and the Department of Justice. Particularly where dominant fertilizer corporations risk acquiring potential competitors in developing alternative and organic fertilizer markets. As this comment illustrates, greater concentration in the conventional fertilizer industry has led to reduced supply chain resiliency, as corporations have shut down plants and acted in a coordinated fashion to restrict supply as demand increases.

⁵⁷ <https://www.unep.org/news-and-stories/story/fertilizers-challenges-and-solutions>

⁵⁸ <https://escholarship.org/uc/item/0m16g2r5>

⁵⁹ https://www.ipes-food.org/_img/upload/files/LongFoodMovementEN.pdf

Additionally, antitrust exemptions such as the Webb-Pomerene Act for domestic and regional producer cartels, specifically Canpotex, must end. These exemptions were originally created to allow smaller companies to effectively compete against large foreign corporations, but consolidation in the industry has removed any need for further antitrust exemptions for large producers.

Barriers to entry in the fertilizer industry are high, and the USDA should crack down on exclusive agreements between farmer supply and wholesale companies that provide storage services and large fertilizer corporations. This barrier has constrained entrants into the market.

Finally, anti-dumping actions by the ITC have given U.S. domestic producers a monopoly position in the North American market. These actions have come at the expense of American farmers and prompted large amounts of outcry from coalition groups. While the U.S. should reduce its dependence on synthetic fertilizer from foreign cartels and monopolists, actions must be taken to ensure that there is multisourcing of fertilizer imports into the U.S. Foreign dependence on fertilizer is also subject to transportation disruptions, especially with regard to potash imports being shipped from Canada.

While these actions may be limited, the U.S. agricultural industry should take steps to reduce its dependence on synthetic fertilizer generally, and look to develop more sustainable farming practices. For example, rather than leaving fields fallow between plantings, rotating cover crops can naturally boost nitrogen in the soil without farmers experiencing a decrease in productivity.⁶⁰

Because weaning soils off inorganic fertilizers requires a three-year process, the USDA should advocate for the Pandemic Cover Crop Program to be expanded and implemented permanently through the upcoming 2023 farm bill. Increasing the funding to \$15/acre rather than \$5/acre would incentivize farmers to expand their use of cover crops. If regenerative farming practices like cover cropping are supported by governmental programs, farmers can organically increase their soil biodiversity and reduce their reliance on synthetic fertilizers.

Finally, farmers lack access to the information and education they need regarding alternative farming practices. While the shift to alternative methods is not simple or easy, funding for education in transitional farming methods is vital to ensuring farmers may break with generational practices and create a new, more sustainable future.

⁶⁰ <https://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=2396&context=usdaarsfacpub>